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| 10/729,009 | 12/08/2003 | Naoki Matsuda | 0425-1099P | 9137 |

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| EXAMINER | |
| GELLNER, JEFFREY L | |

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| ART UNIT | PAPER NUMBER |
| 3643 | |

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/729,009

Applicant(s)

MATSUDA ET AL.

Examiner

Jeffrey L. Gellner

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3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 2, 3, 5, 8-13 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, line 1, the claim depends upon "claim 7" which is a cancelled claim.

Examiner considers claim 12 to depend upon claim 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. (US 6,485,051 B1) in further view of Taylor et al. (US 2003/0145922 A1) in further view of Dahl et al. (US 6,139,055) in view of Mendenhall et al. (US 6,143,102).

As to claim 2, Taguchi et al. disclose a gas generator for an air bag comprising a housing (1 of Fig. 1) with a gas discharge hole (12a of Fig. 1); an ignition means (8 and 9 of Fig. 1)

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including at least one transfer charge (27B of Fig. 1); a second transfer charge (27B of Fig. 1 for igniter 9); and, a combustion chamber (3 and 4 of Fig. 1), wherein the second transfer charge is adapted to be activated after an activation of the first transfer charge (capable of this activity).

Not disclosed is the first transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent; the second transfer charge being only the gas generating agent molded article; and, the gas generating agent including guanidine nitrate and basic copper nitrate.

Taylor et al., however, disclose a first transfer charge being a mixture of transfer charge powder ("boron" and "potassium nitrate" of para. 0052) and molded articles of a gas generating agent ("guanidine nitrate" of para. 0052); Dahl et al. disclose that first and second charges can be different compositions that are gas generating (from "igniter material . . . in secondary igniter assembly . . . may be comprised of various types of gas generating materials"); and Mendenhall et al. disclose use of guanidine nitrate and basic copper nitrate as a gas generant. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Taguchi et al. by using the transfer charge of Taylor et al. so as to prevent the formation of incomplete products of combustion (see Taylor et al. at para. 0022), to use only a gas generating material in the second transfer charge to prevent "sympathetic" ignition (see Dahl et al. at col. 8 lines 3-11), and to use guanidine nitrate and basic copper nitrate as the gas generant so as to have a generant with thermal stability (see Mendenhall et al. at col. 1 lines 50-59).

As to claim 3, Taguchi et al. as modified by Taylor et al., Dahl et al., and Mendenhall et al. further disclose the transfer charge being boron and niter (Taylor et al. at para. 0052; Dahl et al. at col. 7 lines 31-35).

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As to claim 10, the limitations of claim 2 is disclosed as described above. Not disclosed are molded articles of a gas generating agent generating at least 1.2 moles per 100g. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al., Dahl et al., and Mendenhall et al. by having molded articles of a gas generating agent generating at least 1.2 moles per 100g depending upon use of the air bag.

As to claim 12, the limitations of claim 2 is disclosed as described above. Not disclosed is the gas generating agent has a combustion temp. of 1200 to 1700 C. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al., Dahl et al., and Mendenhall et al. by having the gas generating agent has a combustion temp. of 1200 to 1700 C.

Claims 5, 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. (US 6,485,051 B1) in view of Taylor et al. (US 2003/0145922 A1) and Dahl et al. (US 6,139,055) in view of Mendenhall (US 6,143,102) in further view of Matsuda et al. (US 5,780,767).

As to claims 5, 9, and 11, the limitations of claim 2 are disclosed as described above. Not disclosed is the molded article of gas generating agent being nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salt. Matsuda et al., however, discloses a gas generant material with nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salt (col. 4 lines 5-9; col. 3 lines 5-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al.,

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Dahl et al., and Mendenhall et al. by using a gas generating agent for the molded article of nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salt as disclosed by Matsuda et al. that has excellent combustion speed (see Matsuda et al. at abstract).

As to claim 8, the limitations of claim 2 are disclosed as described above. Matsuda et al further disclose a gas generating agent including 34.4% mass of nitroguanidine and 55.6% mass of strontium nitrate (from col. 4 lines 5-9) and carboxymethyl cellulose sodium salt (col. 3 lines 5-7). Not disclosed is the carboxymethyl cellulose sodium salt at 10% and use as the gas generant as molded article. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al., Dahl et al., and Mendenhall et al. by using a gas generating agent for the molded article of nitroguanidine at 34.4% , strontium nitrate at 55.6% as disclosed by Matsuda et al. so as to have excellent combustion speed (see Matsuda et al. at abstract) and to have the carboxymethyl cellulose sodium salt at 10% so as to include a binder.

As to claim 13, the limitations of claim 5 are disclosed as described above. Not disclosed is the molded article having a temperature of about 2200 C. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al., Dahl et al., Mendenhall et al., and Matsuda et al. by having the molded article having a temperature of about 2200 C.

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Allowable Subject Matter

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims; and possibly a terminal disclaimer.

Claim 14 is allowed over the art of record.

Response to Arguments

Applicants' arguments filed 6 August 2007 have been fully considered but they are not persuasive. Applicants' arguments are: (1) the cited prior art does not include the gas generant being guanidine nitrate and basic copper nitrate (Remarks top of page 9); and, (2) the cited prior art does not recite a molded article of a gas generating agent (Remarks top of page 9).

As to argument (1), the Examiner has changed the rejection to use Mendenhall et al. which discloses guanidine nitrate and basic copper nitrate as a gas generant.

As to argument (2), Taylor et al. is considered to disclose a molded article of a gas generating agent because in para. 0050 they state that the "mixture is dried in an oven to form a product cake." Hence, the product can be formed, or molded. In the alternative, it is well known that virtually all exothermic granular compositions can be molded, especially with a binder included.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeffrey L. Gellner
Primary Examiner
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